

OPTICAL ROUTING USING A STAR SWITCHING FABRIC

ABSTRACT

In one embodiment, a router includes a plurality of
5 line cards each operable to receive at least one packet
comprising an identifier associated with a destination
element external to the router. Each line card includes
a look-up table operable to facilitate routing the
received packet toward the destination element based at
10 least in part on the identifier. The router further
includes a plurality of optical transmitters each
associated with one of the line cards and operable to
generate at a specified wavelength an optical router
signal comprising at least a portion of the packet
15 received by the line card associated with that optical
transmitter. The router also includes a star switching
fabric operable to receive a plurality of optical router
signals from the plurality of optical transmitters and to
communicate to each of a plurality of tunable filters a
20 substantially similar set of at least some of the
plurality of optical router signals. Each of the
plurality of tunable filters is operable to selectively
tune to a wavelength of one of the plurality of optical
router signals to facilitate communication of the packet
25 associated with that optical router signal toward the
destination element.